

Spring Gulch Allotment Grazing Environmental Assessment
EA-NV-030-08-22
4000

I. INTRODUCTION/PURPOSE AND NEED

A. Introduction

This environmental assessment (EA) analyzes the impacts resulting from the renewal of the Term Grazing Permit for the Spring Gulch Allotment. The basis for this EA is the Standards and Guidelines (S & G's) Assessment that was completed by an interdisciplinary team.

On February 12, 1997, Bruce Babbitt, then Secretary of the Interior, approved the S & G's for Rangeland Health and Grazing Management to be applied to Bureau of Land Management (BLM) public lands in the State of Nevada, under the administration of the Carson City Field Office (CCFO). These S & G's were developed in consultation with the Sierra Front-Northwestern Great Basin Resource Advisory Council.

S & G's are being implemented through two processes; (1) determination that the terms and conditions of the grazing permit are consistent with the S & G's applicable to all Allotments and/or (2) the Allotment Evaluation (AE) process to determine whether or not the current grazing system is expected to achieve the specific resource goals and objectives identified in the Coordinated Resource Management Plan (CRMP), approved on May 9, 2001.

B. Purpose and Need

The purpose of the proposed action is twofold; (1) Administer grazing in a manner consistent with the attainment of site specific objectives found in the CRMP, and (2) Implement grazing practices that would ensure compliance with the approved S & G's for the CCFO.

The need for the proposed action stems from BLM's mandate to conduct grazing activities in an ecologically sound manner. Grazing use of this Allotment and guidelines for making such use are found in the provisions of the Taylor Grazing Act (TGA) of 1934 (as amended), the Federal Land Policy and Management Act (FLPMA) of 1975, the Public Rangelands Improvement Act (PRIA) of 1978, and the approved S & G's of 1997, as well as various other federal laws and regulations.

C. Land Use Plan Conformance Statement

The proposed action and alternatives described in this document are in conformance with the CCFO-CRMP desired outcomes. For livestock grazing, these are found on page LSG-1 and are as follows:

1. Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland and watershed values.
2. Initially, manage livestock use at existing levels.
3. Provide adequate, high quality forage for livestock by improving rangeland condition.
4. Improve overall range administration.

Additional Guidance: Spring Gulch S & G's Assessment, developed by an interdisciplinary team and approved by the Authorized Officer in 2007; Riparian – Wetland Initiative (1991); Nevada Sage Grouse Conservation Strategy (2001)

Interdisciplinary teams made up of various BLM resource specialists conduct S & G Assessments. This Assessment considered impacts on a wide variety of resources, including cultural resources and the relationship of grazing as to meeting or making progress towards the meeting the S&G's. The Sierra Front-Northwestern Great Basin S & G's are as follows:

Soils: Soil processes will be appropriate to soil types, climate and land form as indicated by: 1) Surface litter is appropriate to the potential of the site; 2) Soil crusting formation in shrub interspaces, and soil compaction are minimal or not in evidence, allowing for appropriate infiltration of water; 3) Hydrologic cycle, nutrient cycle and energy flow are adequate for the vegetative communities; 4) Plant communities are diverse and vigorous and there is evidence of recruitment; and 5) Basal and canopy cover (vegetative) is appropriate for site potential. **Meeting Standard**

Riparian/Wetlands: Riparian/wetland systems are in proper functioning condition as indicated by: 1) Sinuosity, width/depth ratio and gradient are adequate to dissipate streamflow without excessive erosion or deposition; 2) Riparian vegetation is adequate to dissipate high flow energy and protect banks from excessive erosion; and 3) Plant species diversity is appropriate to riparian-wetland systems. **Meeting Standard**

Water Quality: Water quality criteria in Nevada and California State Law shall be achieved or maintained as indicated by: 1) Chemical constituents do not exceed the water quality standards; 2) Physical constituents do not exceed the water quality standards; 3) Biological constituents do not exceed the water quality standards; and 4) The water quality of all water bodies, including ground water located on or influenced by BLM lands will meet or exceed the applicable Nevada or California water quality standards. Water quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements as set forth under State law, and as found in Section 303(c) of the Clean Water Act.

Meeting Standard

Plant and Animal Habitat: Populations and communities of native plant species and habitats for native animal species are healthy, productive and diverse as indicated by: 1) Good representation of life forms and numbers of species; 2) Good diversity of height, size, and distribution of plants; 3) Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and 4) Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation. **Meeting Standard**

Special Species Habitat: Habitat conditions meet the life cycle requirements of special status species as indicated by: 1) Habitat areas are large enough to support viable populations of special status species; 2) Special status plant and animal numbers and ages appear to ensure stable populations; 3) Good diversity of height, size, and distribution of plants; 4) Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and 5) Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation. **Meeting Standard**

II. PROPOSED ACTION AND ALTERNATIVES

A. PROPOSED ACTION

The proposed action is to maintain the normal operation of 3925 AUM's, authorized between 12/16 and 08/15. Three general areas of use would continue to be used (two spring/winter areas and one summer area). These are described as follows:

General Use Area 1: Jack Wright Summit, west to Topaz Ranch Estates located at the southern end of the Allotment. This would take in a portion of the Minnehaha Canyon.

General Use Area 2: Wedertz Canyon to the northern Allotment boundary on the east side of the Allotment.

General Use Area 3: From the eastern foothills, westward, upslope to the crest of the Pine Nut Mountains, and southward, including a large portion of Minnehaha Canyon.

Areas 1 and 2 would generally be used in the winter and spring. Area 3 would generally be used in the late spring and summer period.

The following range improvements are being proposed and construction would be contingent upon funding, policy, manpower, and issue mitigation (Refer to Map):

Two wells with maximum 10,000 gallon storage and storage troughs. One is proposed in the north on the alluvial fan. The other is proposed in the southwestern portion of the Allotment above Topaz Ranch Estates. The locations are NAD83, N4294498, E279540; N4314164, E292129. These improvements would further enhance evening out utilization levels, benefitting the vegetative resource.

A special treatment has been proposed for Minnehaha Canyon by the Carson City Field Office wildlife program lead. This treatment would encourage occasional heavy use levels in the lower canyon area to reduce excessive fuels that could potentially adversely affect sage grouse habitat at the head of the canyon. The special treatment could occur anytime during the authorized period of use. Grazing would be done periodically, but could be *up to* 85% utilization, depending on previous moisture years and current conditions. Closed herding is proposed to assist reaching desired fuel reduction objectives. The sage grouse complex at the head of the canyon is of extreme importance to protect. A detailed discussion of the reason for this proposal is found in Chapter 3's narrative on present sage grouse habitat conditions.

B. NO GRAZING ALTERNATIVE

This alternative would eliminate livestock grazing.

C. CONVERSION TO A COW/CALF OPERATION

This alternative would convert the Allotment to a cow/calf operation, maintaining the same authorized period of use as the proposed action. Under this proposal the AUMs

could be utilized in the manner they are for sheep. Area 1 and 2 would remain winter and spring use areas while Area 3 would be maintained as a summer use area. Use could be made in a shorter or longer period of time with more or fewer animals, within the authorized period of use.

III. AFFECTED ENVIRONMENT

A. Scoping and Issue Identification

A scoping letter was sent to the interested public to identify those individuals and organizations interested in specific actions on specific Allotments under the jurisdiction of the CCFO. The purpose of this scoping letter was to gather information and determine who would be further interested in participating in actions pertinent to specific Allotments.

Standard operating procedures direct the BLM to supply the Nevada State Clearinghouse with a copy of this document for distribution amongst State Agencies. In addition, copies will be sent to the following entities:

Permittee(s) of Record
Western Watersheds
Resource Concepts, Inc
Friends of Nevada Wilderness

Internal scoping amongst BLM staff specialists is an ongoing process as is Native American consultation by the cultural staff.

A consultation letter was sent to the Yerington Paiute Tribe on November 29, 2007, concerning the permit renewal for the Spring Gulch Grazing Permit Renewal. The cultural resource contact for the Yerington Paiute Tribe had concerns for the impacts of grazing to native plants and would like to be consulted on any future range improvements.

Any proposed improvements may potentially have an effect on tribal concerns. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, BLM would conduct Native American coordination and consultation, as necessary, prior to any proposed improvements under this permit renewal.

B. Proposed Action

General Setting

Spring Gulch Allotment is located in Lyon and Douglas Counties, approximately two miles north-northwest of Wellington, Nevada. The majority of the allotment is located on the slopes and upper reaches of the southern Pine Nut Mountains. It ranges from the mountains crest to the floor of Smith Valley on the east and to State Route 3 on the south in the vicinity of Topaz Ranch Estates. It surrounds the Red-Burbank Allotment along with Burbank Canyons Wilderness Study Area, which is designated as a Scenic Area.

Critical Elements of the Human Environment

The following critical elements of the human environment are not present or are not affected by the proposed action or alternatives in this EA: (specifically required by statute, regulation, executive order, etc.)

Critical Element	Not Present *	Present/Not Affected *	Present/May Be Affected**
Air Quality		X	
Areas of Critical Environmental Concern	X		
Cultural Resources		X	
Environmental Justice	X		
Farm Lands (prime or unique)	X		
Floodplains	X		
Invasive, Nonnative Species	X		
Native American Religious Concerns		X	
Threatened or Endangered Species	X		
Wastes, Hazardous or Solid	X		
Water Quality (Surface/Ground)		X	
Wetlands/Riparian Zones		X	
Wild and Scenic Rivers	X		
Wilderness		X	

Bureau specialists have further determined that the following resources, although present in the project area, are not affected by the proposed action or alternatives:

Forestry
Geologic Resource/Minerals

Internal Scoping
Internal Scoping

Since the proposed action or alternatives appear to neither impact nor be impacted by these resources, no further discussion will be included.

Resources Present and Brought Forward for Analysis:

The description of the affected environment for the proposed action/no action and two alternatives would be the same.

Vegetation

The allotment contains pinyon/juniper woodlands, which are predominantly located on the lower and mid-slopes of the Pine Nut Mountains. The crest of the mountain is primarily low sagebrush intermixed with patches of mountain mahogany. Associated with the upper elevations are draws which contain pockets of big sagebrush. The lower foothills and valley floor is a combination of big sagebrush, low/black sagebrush, Anderson peach,, rabbitbrush, and a variety of perennial grasses. Bitterbrush, in varying concentrations, is also present, in various portions of the Allotment.

Range/Livestock

The authorized period of use is from 12/16 to 08/15. A total of 3925 AUM's are available. There are no fenced pastures. The allotment is rated at 100% public land. The primary forage being consumed by sheep is black and low sagebrush. Sheep prefer grasses when green and tender. They utilize a wide variety of forbs. Both grasses and forbs are found in combination with the major vegetative types.

Recreation

Public lands remain open to OHV use with the exception of all public lands contained within Burbank Canyon. This area is subject to the non-impairment criteria outlined in the Wilderness Interim Management Policy. Essentially, this limits OHV use to existing roads and ways except where cross country travel does not impair wilderness quality and where such use (related to mining and livestock) is grandfathered.

Soils

The soils within the Spring Gulch Grazing Allotment vary considerably in physical, chemical, and biological characteristics. Parent material, surface and subsurface textures and rock fragments, elevation, aspect, and slope determine the inherent productivity. Erosion and runoff potential, while affected greatly by these factors, are also dependant upon the basal and canopy cover of vegetation on site. Also, roads, livestock and horse use, mining and other overland activities, and general motorized vehicle use have impacted soils in certain areas. Generally the soils in this allotment are classified as Mollisols and Aridisols. Most of the area is within the eight to twelve inch precipitation zone. Soil reactions are neutral to slightly alkaline. Most of the allotment is within Douglas County, and detailed descriptions of those soils can be found within the Douglas County Soil Survey. A small part of the eastern part of the allotment is in Lyon County, and so those soil descriptions can be found in the Lyon County Soil Survey. Both surveys were issued in 1984 by the U.S. Dept. of Agriculture-Soil Conservation Service.

Invasive/Nonnative/Noxious Weeds

There are no known noxious weed infestations that have been located within the allotment, however there are infestations of salt cedar and diffuse knapweed nearby, to the northeast of the allotment in the Buckskin Mine area.

Federally Listed Species

There is no federally listed plant or animal species nor habitats associated with the Spring Gulch allotment, nor are there species proposed for federal listing (www.fws.gov/nevada/protected_species/index.html).

General Wildlife

General wildlife habitats in this allotment are diverse and are generally in good condition. Some of the condition derives from higher precipitation levels- even in drought years. Some of the condition derives from current good livestock management coupled with the class of livestock – domestic sheep. Well managed domestic sheep nip a little of all plants available rather than select for certain ones. This behavior maintains the native community and helps keep some plants from overtaking the system. Pinyon-juniper encroachment can be slowed with domestic sheep grazing. The major wildlife habitat types (Wildlife Action Plan Team 2007) include,

Intermountain Cold Desert Scrub – Historically, this habitat would have been dominated by Indian rice grass. Spiny hopsage, shadscale and chenopods can be found at the lower elevations of this allotment. Grasses, Ephedra sp and shadscale are also found. This habitat type is small in acreage on this allotment. Much of this area on the southwest bench has been overtaken by cheatgrass as a result of subdivision disturbance. Wildlife species associated with this habitat type include pale kangaroo mouse, Great Basin collared lizard and black-throated sparrow.

Sagebrush – At middle elevations, Wyoming big sagebrush dominates on this allotment. Grasses and forbs such as globemallow and lupine would be used by mule deer, pronghorn and desert bighorn. The half-shrub Eriogonum (buckwheat) can be used extensively by mule deer as fall forage. Higher elevations are also dominated by Wyoming big sagebrush. Bitterbrush would not be a co-dominant with this sagebrush species. Mountain big sagebrush dominates much of the upper elevation. Low sagebrush can be found as small inclusions associated with specific soil types. Vigorous stands of mountain mahogany dominate soil specific areas at higher elevations of this allotment. There are also scattered stands of Manzanita at higher elevations that are inclusions of Sierra Nevada physiography. The upland species snowberry and elderberry are very sensitive to overgrazing and both are present and in good shape. No hedging of these plants was seen. Wildlife species such as Great Basin pocket mouse, sagebrush lizard and sage sparrow.

Lower Montane Woodlands - Singleleaf pinyon and Utah juniper are the dominant vegetation types in this habitat. Mountain mahogany may be present at the upper elevations of this habitat. Forbs and grasses are sparse, especially as the canopy closure increases. Cliffrose and bitterbrush are key mule deer forage species in this habitat type. Wildlife species such as short-horned lizards, gray fox and gray vireo can be found in this habitat type.

Timber / aspen - Small amounts of true timber and aspen occur at heads of canyons. There are isolated pockets of timber (limber pine) at the highest elevations on the allotment. These areas are soil associated inclusions within the pinyon-juniper woodland,

riparian or mountain shrub habitat type. They aren't large enough to support a different assemblage of wildlife species than the surrounding area.

Springs and Springbrooks - Springbrook outflows are associated with springs in this allotment. Riparian vegetation is for the most part, in very good condition with good diversity present. Some pinyon juniper trees are encroaching into certain water sources and will eventually replace the riparian vegetation. Where riparian areas exist, roses, willow, rushes and sedges can be found. Springs accessible only on foot are in very good conditions. Some lower elevation springs are at risk from human disturbance and mining exploration roads. Wildlife species associated with this habitat type include wandering garter snake, shrew sp and hummingbird sp.

Intermountain Rivers and Streams – The high elevation riparian habitats in Nevada have narrow channels with banks dominated by herbaceous communities of grasses, sedges and rushes in the understory. In good condition systems, dogwood, rose and other mid-height shrubs are common in the understory. Mill Canyon Creek that runs through this allotment is an example of a high elevation riverine riparian system. The creek is in extremely good condition. The creek has lush herbaceous and mid-height shrub understory at creekside and aspen as an overstory. Aspen along the creek is reproducing and understory diversity is very good. The rose and willow understory at creekside are reproducing. Numerous forb and sedge species associated with the riparian area along the stream were seen with seed heads still standing from the previous year. Mill Creek water has a neutral pH with low natural conductivity. This means invertebrate production is naturally low. However, there were freshwater Planaria sp. which cannot survive without very high quality water. There were stonefly, caddisfly and freshwater earthworms present that need high quality water. Mill Creek had lots of drift invertebrates, lots of detritus and aspen blow-down which stabilizes the system and adds food to the system. Wildlife species associated with this riparian corridor include Cassin's finch, shrew, sp and garter snake sp.

This allotment is within the BLM Pine Nut Habitat Management Plan area.

The general allotment area supports part of the main portion of the mule deer associated with the Pine Nut Mountain Range. The southern part of the allotment is key mule deer winter range. The allotment has good browse species in the bitterbrush, mountain sagebrush and mountain mahogany. Upper Minnehaha Canyon has good leader and reproduction on bitterbrush. Conservative livestock utilization levels are keeping browse reproducing and all age classes are represented. Forbs and grasses are evident in the shrub interspaces. Diversity is good for grasses and would be good for forbs. Key spring grass Sandberg Poa is present. In many areas, deer habitat is being lost through pinyon-juniper encroachment.

Most of the allotment that isn't key deer winter range is key deer summer range. Grasses, forbs and shrubs associated with this range is in good condition. Diversity is evident and reproduction is occurring. Key deer fawning areas are represented by a mile area around spring sources. Many spring sources have roads to or through them. Does may be displaced in June by vehicles or ATV traffic into less than ideal habitat. Fawn recruitment may be less than ideal. South Camp Spring has tree encroachment, affecting water flow and the associated riparian area.

The Pine Nut Range may have always been a metapopulation, depending heavily on the interstate migration for genetic mixing. The western side of the Pine Nut Mountains was and still is a key migration corridor for the Carson-Truckee herd. That herd's movement is becoming increasingly impacted by residential development. Because mule deer numbers are depressed all over the west, and because interstate migration has been reduced, numbers of deer in the Pine Nut Mountains and this allotment are significantly fewer than in past years.

A few pronghorn may use the eastern side of the allotment foothills area, particularly in winter. Much of the bench area that would have historically been used has been developed into residential areas.

Bighorn historically occurred in the Pine Nut Range and would have used this allotment. Nevada Department of Wildlife considers portions of this allotment as potential bighorn habitat (NDOW 2006). However, because domestic sheep currently are permitted in the allotment, no re-introduction would be proposed. BLM and NDOW both have policies stating this.

The entire allotment is currently listed as occupied black bear range and habitat. This allotment is fairly rich for bears in terms of vegetation diversity and prey species. Bears use plants, rodents and carrion as principle food sources.

The Spring Gulch grazing allotment lies within the Pine Nut Mountains Sage Grouse Population Management Unit (PMU). Sage grouse within this area are part of the Mono/Lyon population segment which has been the subject of several petitions to be listed under the Endangered Species Act, and may qualify as a Distinct Population Segment. Sage grouse require, sagebrush, habitats for all phases of their life cycle. Winter habitat includes sagebrush tall enough to be available when snow is present for food and cover. Pre-nesting habitat includes sagebrush with forbs. Nesting habitat includes areas with sagebrush and residual grass cover tall and thick enough to conceal and mitigate temperature extremes for the next. Brood rearing habitat includes succulent forms found within the sagebrush community and often wet meadows (Axtell 2008).

Historically sage grouse were very abundant within and around the Pine Nut Mountains, currently only a small population exists (Axtell 2008). This allotment has key sage grouse habitat in the southern end at the head of Rickey and Red Canyons which are part of the Bald Mountain area (Suminski 2008). Leks have been identified on a ridge in the southern portion of this allotment. Generally attendance at these leks has been declining (Axtell 2008). The Bald Mountain area lek vegetation was in very good condition in 2007. There are good leaders on the low sagebrush, good quantities of grasses standing, some with seed heads. The grasses were located in the interspaces as well as in the protection of the shrubs. Forbs were in evidence by dead standing from the previous year. There was good diversity in the phytocryptogams. These were found not only on the rocks, but in the interspaces of shrubs and grasses (Suminski 2008). There are likely unidentified leks within this PMU and likely within this allotment (Axtell 2008).

Chokecherry Canyon has a lek that may be occupied or may be historic. Winter's Meadow and Nike Meadow (near the boundary between the Pine Nut and Spring Gulch allotments) were key sage grouse brooding areas until all birds from these areas were poached (Holman 2007). There is key sage grouse use on top at Mud Lakes (Holman

2007) which are just in the Pine Nut allotment rather than Spring Gulch. Use in this area could extend into Spring Gulch.

Nesting habitat has been identified by NDOW within this allotment. Some of the remaining nesting and brood rearing habitats are less than ideal. Studies have shown that nesting success is greatly reduced when herbaceous cover around the nest bush is less than 18 cm. In many cases the grasses have been grazed to low heights, though some that are protected from grazing can exceed 18 cm (Axtell 2008).

Encroachment of pinyon pine and to a lesser extent juniper into sagebrush habitats likely accounts for a substantial portion of the decline in sage grouse attendance at some leks (Axtell 2008). Historically, wildfire would have removed many trees. Wild horses occasionally use Winter's and Nike Meadows heavily which would include both meadows and nesting habitat. OHV users ride through higher mountain meadows which damages vegetation and moves grouse to less than ideal areas. Additionally, historic sage grouse use areas on the benches south, east and west of the area now contain subdivisions, intense recreational use and human disturbance. Connectivity between sage grouse populations and sage grouse habitats has been reduced by the above factors. These factors are also known causes of sage grouse population declines (Neel 2001). The Pine Nut population of sage grouse may now be a metapopulation* which consists of a group of spatially separated populations of the same species which interact at some level; a population of populations.

One high level threat has been identified for the Bald Mountain area sage grouse use areas. The lower half of Minnehaha Canyon presently supports a very tall, thick stand of Great Basin wild rye and other associated plants. These plants occur as a result of a wildfire re-seeding. Because of the residential area adjacent to the Canyon mouth and the dominant cheatgrass in this area, danger from catastrophic wildfire is extremely high. The Canyon would act like a chimney drawing fire into the browse stands at mid-canyon and into the sage grouse use area at the top of the canyon. Because this grouse complex is so extensive, its preservation is paramount.

Mountain quail are present on the allotment as are California quail in the foothills.

The exotic species chukar can be found on the east side of the allotment.

Although drought is affecting this allotment, current conditions in this allotment are highly functional for general wildlife species with the exception of the high wildfire potential in Minnehaha Canyon with the standing rye. The wildfire threat is not caused by livestock grazing.

Special Status Species

BLM Sensitive Species

BLM Manual 6840 defines sensitive species as "...those species not already included as BLM Special Status Species under (1) Federal listed, proposed or candidate species; or (2) State of Nevada listed species. Native species may be listed as "sensitive" if it: (1) could become endangered or extirpated from a state or significant portion of its range; (2) is under review by the FWS/NMFS; or (3) whose numbers or habitat capability are declining so rapidly that Federal listing may become necessary, or (4) has typically small and widely dispersed populations; (5) inhabits ecological refugia, specialized or unique

habitats; (6) is state-listed, but is better conserved through application of the BLM sensitive species status.” It is BLM policy to provide sensitive species with the same level of protection that is given federal candidate species. The major objective of this protection is to preclude the need for federal listing. BLM sensitive wildlife species associated with this allotment are shown in Appendix A (BLM 2003; Tonenna 2008).

The general condition of the grassland, shrub and riparian component of this allotment is good. Species diversity, especially of forbs and grasses is some of the best on the District. Drought conditions are affecting this allotment as it has all, but plants were in better condition going into the drought and look reasonably healthy now. Range conditions are not having a negative effect on prey or sensitive species of wildlife that used shrubs and grasses. Current range condition is reasonably conducive for prey species or sensitive species that depended primarily on grass and forb production. In years that weren’t affected by drought, habitat for prey species and sensitive species would be very good.

Some BLM sensitive species use every habitat within the allotment. Some species do not occur because of a natural lack of habitat type in this specific allotment. Current habitat conditions are meeting habitat requirements for BLM sensitive species that would be expected in this allotment. In some habitat, ideal habitat conditions for some BLM sensitive species are being met such as the aspen riparian areas for Cooper’s hawk, bat and sharp-shinned hawk habitat.

Pine Nut Mountain Ivesia has habitat on the western boundary of the allotment. It is an early spring plant that blooms, seeds and becomes dormant in early summer (Tonenna 2008).

Migratory Birds

On January 11, 2001, President Clinton signed Executive Order 13186 (Land Bird Strategic Project) placing emphasis on conservation and management of migratory birds. The species are not protected under the Endangered Species Act, but most are protected under the Migratory Bird Treaty Act of 1918. Management for these species is based on Instruction Memorandum – IM 2008-050 dated December 18, 2007. The Intermountain West is the center of distribution for many western birds. Over half of the biome’s Species of Continental Importance have 75% or more of their population here. Many breeding species from this biome migrate to winter in central and western Mexico or in the Southwestern biome (Beidleman 2000). The species of concern that could occur in the general project area are shown in Appendix B (BLM 2007).

There are no Important Bird Areas (IBA) associated with the general project area. There are no identified important wintering areas within the general project area (McIvor 2005).

Some migratory bird species use every habitat within the allotment. Current habitat conditions, other than drought years, are meeting requirements for migratory birds that would be expected in this allotment. Although recent drought has affected vegetation and forage species in the allotment, most of the area receives more than neighboring areas due to elevation. Vegetation is in better condition in this allotment than some. Good to ideal vegetation conditions with abundant seed and insect prey should return when moisture returns since basic vegetative components are present.

Riparian areas that would be used by migratory birds were rated as being functional (BLM 2007a). These provide highly functional and diverse habitat for migratory birds on this allotment.

Wetlands/Riparian

Seven separate riparian areas were assessed on the Spring Gulch allotment between October 31, 2006 and June 27, 2007. A few riparian areas on the allotment were not assessed because of difficult access and a low likelihood of impacts. Table 1 provides some basic data for each location, and shows all sites to be in a proper functioning condition (PFC).

Livestock grazing does not appear to be a significant impact to riparian areas on the Spring Gulch allotment. An invasion of pinyon, however, is a concern in some areas. In 2001 South Camp Spring in the south part of the allotment was rated as functional-at-risk in a downward trend due to pinyon encroachment. Digital color imagery of the area from 2006 indicates that its condition has not changed much.

Table 1. 2007 Riparian Assessment Data for the Spring Gulch Allotment

Name	Date Assessed	UTM Northing	UTM Easting	Rating¹	Acres²	Miles	Management Recommendations
Red Canyon (headwaters)	11/01/2006	4299518	283210	PFC	5	0.8	
Pipeline Canyon	10/31/2006	4305934	288601	PFC	8	1.3	
Wild Horse Reservoir	10/31/2006	4311089	289947	PFC	4	0.5	
Minnehaha Spring & Pond	11/02/2006	4296144	281367	PFC	<0.1		Consider intensive spring grazing to remove fuel buildup
Fault Spring	10/31/2006	4311336	290494	PFC	0.3		
Pool Spring	10/31/2006	4313109	290004	PFC	<0.1		Repair fence
Hoye Seep	6/27/2007	4291687	290461	PFC	<0.1		

Water Quality

No class waters or beneficial uses are designated within the Spring Gulch allotment. Therefore, only the descriptive water quality standards pertaining to all surface waters in Nevada (NAC 445A.121) apply to water resources on the allotment. During the rangeland health evaluation and riparian assessments no significant impacts to water quality due to current land uses, including livestock grazing, were observed. There were

¹ Rating key:
PFC = Proper Functioning Condition
FAR-UP = Functional-At-Risk with an Upward Trend
FAR-DN = Functional-At-Risk with a Downward Trend
FAR-? = Functional-At-Risk with an Unknown Trend
NF = Nonfunctioning

² Acreages were measured with GPS except Minnehaha Spring, which was estimated in the field, and the lotic areas, which were calculated using the GPS-measured length and an assumed width of 50 feet.

no visual signs, odors, or other indications that water quality was being impaired under the current grazing system.

Table 2 summarizes measurements of the pH, temperature, and conductivity taken during riparian assessments. None of the parameters indicate unacceptable livestock impacts.

Table 2. 2007 Water Quality Data for the Spring Gulch Allotment

Name	Date Collected	UTM Northing	UTM Easting	pH	Temp (°C/ °F)	Conductivity (µS)
Red Canyon (headwaters)	11/01/2006	4299518	283210	7.58	6.6 / 44	119
Pipeline Canyon	10/31/2006	4305934	288601	8.26	6.8 / 44	198
Wild Horse Reservoir	10/31/2006	4311089	289947	7.64	9.0 / 48	118
Wild Horse Res. Tailwater	10/31/2006	4311074	289986	7.98	8.6 / 47	1.5
Minnehaha Canyon Pond	11/02/2006	4296144	281367	7.44	10.0 / 50	247

Cultural Resources

Following BLM regulations (43 CFR Part 8100) and other federal laws including the National Historic Preservation Act (16 USC § 470f) and its implementing regulations (36 CFR Part 800), as amended, BLM reviewed the immediate region for historic properties prior to a federal undertaking (issuance of a federal permit). The potential exists for adverse impacts to cultural resources and/or historic properties due to a continuation of livestock grazing with or without modifications to the grazing permit. By definition, an historic property is a “prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places” and includes “artifacts, records, and remains that are related to and located within such properties” (36 CFR 800.16(l)(1)).

Based on research of files at the Carson City Field Office and the Nevada State Museum, the allotment contains some locations of known cultural resources. To date, in and immediately adjacent to the BLM-managed lands of the Spring Gulch Allotment, known cultural resources represent significant past human use of the landscape. Previous cultural resources investigations comprise approximately 5,901 acres, or 9.6%, of the allotment area, and have identified 45 sites. Known site types within the allotment area include prehistoric camp sites; prehistoric limited activity/procurement sites; rock alignments and hunting blinds; ethnographic pinyon camps and resource procurement sites; historical stone structures; historical refuse scatters; mining complexes; isolated prospecting locales; ranching sites; transportation sites; charcoal production locales; and a petroglyph boulder. Further details on local site types and the potential for effects to historic properties from livestock activities associated with the issuance of a grazing permit are available in a technical report prepared for this permit renewal (CRR 3-2439—Lane, 2008) and the published Carson City District Cultural Resources overview report (Pendleton et al., 1982). Based on review of range data and reports on areas previously

inventoried in or near the allotment, livestock grazing is not a significant impact to historic properties (Lane, 2008).

Only Minnehaha Canyon is proposed for a change in grazing use, with occasional heavy use encouraged within the Proposed Action. As areas within Minnehaha Canyon are thought to have a higher probability to contain historic properties, this location was subject to cultural resources reconnaissance by a BLM archaeologist in May 2008 (Lane 2008). Based on that reconnaissance, no historic properties were observed on the flats or riparian areas in the canyon. As a result, increased grazing in this area is not known to significantly affect historic properties.

BLM analyses included the potential impacts of implementing allotment improvements provided above, under the Proposed Actions and Alternatives. Fieldwork at the location of each of these improvements was completed in May 2008, and based on that review by a BLM Archaeologist, the specific allotment improvements—two proposed wells—each is not known to have significant impact to historic properties (Lane 2008).

Therefore, relative to cultural resources, there exists no need to alter the proposed Spring Gulch Allotment term grazing allotment permit Proposed Action, which includes proposed allotment improvements, in order to prevent unnecessary or undue degradation.

Additional allotment improvements may be part of the issuance of this grazing permit, but all proposed project improvements have the potential to adversely affect cultural resources. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, BLM is required to identify and evaluate cultural resources within the area of potential effect from an undertaking such as a waterline, fence, creation of new water haul locations, or other area that involves ground disturbance or that concentrates livestock. Any historic properties identified, documented, and evaluated as eligible for inclusion in the National Register of Historic Places within a proposed improvement area of potential effect will be avoided by proposed improvements. If these cannot be accomplished, specific project undertakings will be cancelled, or the allotment use will be modified to result in no adverse effect to the historic property(ies) pursuant to 36 CFR Part 800, and in consultation with the local tribal entity and the Nevada State Historic Preservation Office.

Wilderness

The Wilderness Study Area is surrounded by the Spring Gulch Allotment. A portion is located within the Allotment boundary. The area was not recommended as suitable for wilderness designation but was designated as a Scenic Area. This area is being managed within a Class II visual Management objective where actions may be seen but should not attract the attention of the casual observer. The level of change to the characteristic landscape should be low.

IV. ENVIRONMENTAL CONSEQUENCES

A. PROPOSED ACTION

Vegetation

By operating more in a closed herding manner, old growth of the plants would be more readily removed on a more consistent basis. This could be achieved by animals consuming the forage or the vegetation being knocked down and put into contact with the ground creating litter. Use levels would be more consistent. This would enhance the health of the plants. Currently, a number of grass plants have old growth that is affecting production potential. This is not the result of over grazing. Overall condition of the vegetative resource should improve. Applying the proposed treatment in Minnehaha Canyon would provide an opportunity to lessen a devastating fire that could adversely affect sage grouse habitat.

Range/Livestock

The total amount of use would remain at 3,925 AUMs for the period of 12/16 to 08/15. Although the permittee has not exercised the option to run full numbers (voluntary non-use has been taken), with the success of the Holbrook Fire Rehabilitation Project, and the forage availability in the rest of the Allotment, adequate forage remains on an annual basis if full numbers were to be requested. The addition of the two proposed wells would aid in more even use levels occurring throughout the allotment.

Recreation

Adoption of this alternative would have no adverse effects on recreational use currently taking place on the allotment.

Soils

The implementation of this alternative would have little effect on the soils resource within the allotment since the soils standard is currently being met.

Invasive/Nonnative/Noxious Weeds

The implementation of this alternative would have no effect on noxious weed populations since there have been none located within the allotment.

Federally Listed Species

Since federally listed species naturally don't occur on the allotment, there would be no impacts to these species or habitats from the proposed activity.

General Wildlife

The rangeland health assessments completed for this allotment indicated that soils are stable in the allotment and support functional plant groups that would be expected on this site. Riparian areas were found to be functional and there are no water quality issues (BLM

2007a). Drought is causing some vegetation components to suffer but because general wildlife habitat is basically intact, current moderate permitted levels of livestock grazing aren't impacting general wildlife habitats in the allotment (Guthrey 1995).

The proposed new wells and troughs could benefit general wildlife to some degree as a water source if some were allowed to spill on the ground from the troughs. The wells would open new areas to seasonal grazing. Because of the current good condition of general wildlife habitat that is currently being grazed, this isn't expected to be an impact.

The proposed occasional intensive grazing in Minnehaha Canyon could alter the composition and abundance of some species of general wildlife in the Canyon. There might be more or less of a particular species, but none would be expected to not use this area if this alternative were chosen. The proposal would benefit general wildlife by maintaining native communities whereas a wildfire would likely create a long-term annual community with very limited wildlife habitat value.

Although domestic sheep and pronghorn would use the same area during the winter on Spring Gulch and Spring Gulch, pronghorn are not affected by this class of livestock, especially in the winter (Yoakum et al 1993). Neither forage nor spatial conflicts would be expected to occur in winter. Some spatial and forage competition can occur in spring between domestic sheep and pronghorn in the Great Basin. Pronghorn avoid herders and herder dogs, but don't appear to mind the presence of domestic sheep (Yoakum et al 1993). Spring diets of the two users overlaps heavily. However, pronghorn have never been documented using more than 1% of available forage (Yoakum et al 1993). Additionally, livestock grazing at the moderate level can cause some rangelands to be in a sub-climax vegetative condition (a description of plant community age, not condition) which is ideal for pronghorn (Yoakum et al 1993.) Because of the good condition of the range, it is expected that there is sufficient forage for the proposed domestic sheep use and pronghorn. The proposed wells might draw more pronghorn into the area. The wells would be turned off during summer. Although this would cause pronghorn to have to disperse quickly; the effect shouldn't be too impacting. The proposed occasional intensive grazing in Minnehaha Canyon wouldn't affect pronghorn since none use the canyon due to the presence of subdivisions.

Current permitted levels of domestic sheep grazing are not affecting mule deer due to the light use made by the domestic sheep. Although there is dietary overlap in spring between domestic sheep and mule deer on forbs and new grasses, numerous long-term research studies indicate that when sufficient forage of all categories is available for deer and sheep, there is not competition (Peek and Krausman 1995). This compatible situation currently exists on this allotment and would be expected to continue under the proposed action.

The proposed new wells and troughs could open up new forage to local and transient deer just as it will for the domestic sheep. However, for the reasons stated above, competition for forage isn't expected. Deer would use some of the water but it won't be an important source. When wells were shut off for summer, deer would have to disperse quickly but the effect shouldn't cause an important impact.

Mitigation has been proposed to reduce this potential impact. The proposed occasional intensive grazing in Minnehaha Canyon wouldn't affect mule deer since subdivisions at the mouth of the canyon deters deer use.

Grazing of domestic sheep would not affect black bear or mountain lion use of the allotment. The proposed new water developments would open new areas to grazing. The risk of predation in these new areas would be about the same as in areas previously grazed so no new APHIS-ADC take would be expected to result from the proposal. The proposed occasional intensive grazing in Minnehaha Canyon wouldn't affect black bear or mountain lions since subdivisions at the mouth of the canyon would deter their use.

Domestic sheep use would occur during, pre nesting, nesting and brood rearing stages in the sage grouse life cycle. Residual grass cover is an important factor in nesting success. Sage grouse nest under sagebrush which sheep consume (Axtell 2008). Domestic sheep eat bits of everything kind of vegetation including seedling pinyon and juniper trees. Because these animals are actively herded (on this allotment, not normally close-herded), use is spread fairly evenly across the allotment. The current permittee for this allotment only uses the range at a measured light rate with domestic sheep which is less than 45%. This measured use stays at this level or less due to the permittee's husbandry practices. Although domestic sheep do eat sage brush tips, use in this allotment is not damaging sage grouse habitat. Standard and guideline assessments done for the allotment bear out that vegetation communities are functional, including riparian areas (BLM 2007a). Field assessments done in late spring of 2007 found standing grass and forb aftermath in interspaces and on the harshest soils – even as a persistent drought affected the area. The proposed grazing alternative would have minimal affect on sage grouse habitat.

The proposed well developments wouldn't affect sage grouse to any degree since these are proposed outside of used grouse habitat although these are within the PMU.

The proposed occasional intensive grazing in Minnehaha Canyon to prevent catastrophic wildfire from destroying the Bald Mountain sage grouse complex could be critical to the local population associated with the Bald Mountain complex. Due to the various reasons for habitat loss, sage grouse in the Pine Nut Range appear to be functioning as a metapopulation. Armoring this complex against the increased wildfire threat could aid in retaining this metapopulation in the local area and ensure a stronger population in the Pine Nut Range.

Moderate grazing levels have been adhered to in the past and would be permitted under the proposed action alternative. These levels would only minimal effect on sage grouse habitat and on other upland game bird species sage grouse (Guthery 1995). Under current utilization, riparian areas and general vegetation communities are functional (BLM 2007a) and are in good condition for upland game bird use. The proposed wells could have some increased use by quail, mourning dove and chukar –especially if a little water flowed over the troughs. The wells could change local distribution of these birds, but wouldn't be expected to change overall numbers. Mitigation has been proposed to reduce negative effects of these proposed developments. The proposed occasional intensive grazing in Minnehaha Canyon wouldn't affect general upland game bird populations.

This grazing alternative is better for general wildlife habitats and game species than the yearlong alternative.

Special Status Species

BLM Sensitive Species

Livestock grazing allows some species to respond positively, some to respond negatively and some to have a mixed response (Finch et al 1993). This means only that some species may use a grazed area more, some may use it less. It doesn't necessarily preclude the presence of a species (Fagerstone and Ramey 1995). Livestock grazing in this allotment is not a threat to the BLM sensitive species because this allotment is in good condition as wildlife habitat and is functional for overall vegetation and riparian resources (BLM 2007a). Food for prey species and BLM sensitive species, such as seeds, is in good supply due to the overall good condition of the vegetation. Since some domestic sheep grazing occurs in winter when vegetation is dormant, any chance for impacts to sensitive species habitats would be minimal. Spring grazing should have only minimal affect on BLM sensitive species since vegetation is in good condition.

Although the Ivesia occurs on habitats that are steeper and more barren, domestic sheep readily access these areas. Because domestic sheep graze nearly every species of vegetation available, they probably graze the Ivesia. Although overall grazing is light on this allotment, grazing in early spring when the plant is growing could have a negative effect on the reproductive capacity of the plant population (Tonenna 2008). Mitigation has been proposed to alleviate this possible impact.

The new wells would provide new areas for bats that use troughs for foraging. Some BLM sensitive species might use the new water, but this use would be minimal. There would be an added drowning potential for bats from the new troughs. Mitigation has been proposed to relieve this impact. The wells would also open new areas to domestic sheep grazing. While grazing wouldn't be damaging, it would change the area and could alter local distribution of some BLM sensitive species by either increasing or decreasing numbers of a given species. This isn't expected to have an effect on overall populations in the allotment.

The proposed occasional intensive grazing in Minnehaha Canyon isn't expected to affect BLM sensitive species that might use the canyon or may benefit some. Rodents could be more easily hunted by raptors with less vegetation when the Canyon was grazed. Bats might use the canyon as a travel way, but wouldn't be expected to be affected by the grazing. The area might not be as conducive to some passerine birds when it was intensively grazed, but this Canyon comprises less than 1% of the habitat for these birds. Any impacts would be to individuals of a sensitive species; there wouldn't be an effect on local or regional populations. The benefits from having important sage grouse protection outweigh of reducing vegetation height in the Canyon occasionally.

The effects of this alternative on sage grouse have been discussed.

Neither the proposed improvements nor the strategy for Minnehaha Canyon are near the Ivesia habitat.

This grazing alternative is preferred over the yearlong alternative for BLM sensitive species.

Neo-tropical Migratory Birds

Livestock grazing allows some species to respond positively, some to respond negatively and some to have a mixed response (Finch et al 1993). This means only that some species may use a grazed area more, some may use it less. It doesn't necessarily preclude the presence of a species. Livestock grazing was not listed as a threat to mourning dove and loggerhead shrike (www.natureserve.com). Heavy livestock grazing can be an issue for Brewer's sparrow, gray vireo and sage thrasher (www.natureserve.com, Finch et al 1993) as well as Sage Sparrow, Ferruginous Hawk, Burrowing Owl and Prairie Falcon (Neel 1999; Beidleman 2000, Nevada Wildlife Action Plan 2006). Pinyon jay can be benefited by grazing but is more likely to be unaffected (BISON ND). Sources don't indicate that the remainder of the migratory bird species listed in Appendix B are affected by livestock grazing (www.nature.serve.com; Neel 1999; Beidleman 2000, Nevada Wildlife Action Plan 2006, Floyd 2007).

The current grazing levels have been *moderate* and proposed levels for this allotment would not have a noticeable impact on migratory bird individuals or populations listed as reacting negatively to *heavy* grazing. Good condition vegetation communities are in place which allows production of insects, seeds, rodents and other forage materials. Some domestic sheep grazing would occur in winter when vegetation is dormant; the chance for direct impacts to migratory bird reproductive habitats would be reduced since grazing wouldn't occur during the growing season. Some grazing would occur on Spring Gulch in the spring during nesting season. Domestic sheep are not close-herded by this operator. For this reason, nesting disturbance wouldn't be more than when wildlife went through the area. It might disturb individuals temporarily, but shouldn't cause lost reproduction. Because this allotment is in acceptable functioning condition for soils, general vegetation and riparian areas, migratory birds that nested or foraged in this allotment would not be affected by continuing the currently permitted grazing.

The proposed wells would not provide much as watering sites for migratory birds but these would open new areas to grazing. While grazing wouldn't be damaging, it would change the area and possibly the local use by some migratory bird species. However, this isn't expected to have an effect to overall local populations.

The proposed occasional intensive grazing in Minnehaha Canyon could alter the composition and abundance of some species of general wildlife in the Canyon. There might be more or less of a particular species. The area might not be as conducive to some passerine birds when it was intensively grazed, but this Canyon comprises less than 1% of the habitat for these birds. Any impacts would be to individual birds; there wouldn't be an effect on local or regional populations. The benefits from focusing on sage grouse protection outweigh the effects of reducing vegetation height in the Canyon occasionally that other birds may use.

This grazing alternative is preferred over the yearlong alternative for BLM sensitive species.

Wetlands/Riparian

Continuing current permitted use levels for the allotment would maintain riparian conditions in proper functioning condition, which would meet the standard for rangeland health. The new proposed treatments and projects, however, could have some short-term and long-term effects.

The closed herding proposed for Minnehaha Canyon would disturb soils and remove vegetation that protects soils from erosion. This could lead to soil movement and sedimentation of water sources in the canyon shortly after treatment. The treatment should provide long-term benefit, however, because the heavy use of the herding areas would remove decadent vegetation and stimulate new growth. This could enhance ground cover and ultimately stabilize soils. The treatment would also reduce the risk of catastrophic wildfire, which could have a much greater impact on riparian areas, especially if a high-intensity fire burned a significant portion of the watershed.

If developed, the proposed wells could improve riparian conditions by easing grazing pressure on springs and streams.

Water Quality

Continuing current permitted use levels for the allotment would maintain water quality, which currently meets the standard for rangeland health. The new proposed treatments and projects, however, could have some short-term and long-term effects.

The closed herding proposed for Minnehaha Canyon would disturb soils and remove vegetation that protects soils from erosion. This could lead to soil movement and sedimentation of water sources in the canyon shortly after treatment. The treatment should provide long-term benefit, however, because the heavy use of the herding areas would remove decadent vegetation and stimulate new growth. This could enhance ground cover and ultimately stabilize soils. The treatment would also reduce the risk of catastrophic wildfire, which could have a much greater impact on water quality, especially if a high-intensity fire burned a significant portion of the watershed.

If developed, the proposed wells might improve water quality somewhat by easing grazing pressure on springs and streams.

Cultural Resources

Under the Proposed Action, there exists no need to alter the proposed term grazing allotment permit and the proposed allotment improvements in order to prevent unnecessary or undue degradation. With each future range improvement, BLM will review the area of potential affect (the area where concentrated livestock use could affect the values that make a historic property important) prior to implementation, and if adverse effect cannot be avoided, either cancel the proposed project, relocate it away from any historic property, or modify allotment use.

Wilderness

Wilderness values should not be adversely affected by the proposed action. Sheep do graze a portion of the WSA during the summer months, trailing into a spring/trough source. By adopting the strategy to graze Minnehaha Canyon in conjunction with the upper levels should result in less use within the area.

B. NO GRAZING ALTERNATIVE

Vegetation

An improvement in vegetative production should initially result when effective precipitation patterns return to the area. In time, more of the grasses would accumulate multiple years of dead matter. Growth would eventually be from the edges of the grass plants near the ground surface, and in time the centers of the plants could die out. This would be the result of the lack of animal impact and could result in fewer plants becoming established over the long term. All vegetative species would be available for the sole use of wildlife species.

Range/Livestock

This would no longer be an issue.

Recreation

Adoption of this alternative would have no adverse effects on recreational use currently taking place on the allotment.

Soils

The implementation of this alternative could have a slight positive impact on the soil resource within the allotments, but since the soils/watersheds within the allotment are in large part meeting the soil standards, the magnitude of the impact would probably be unmeasurable.

Noxious Weeds/Nonnative/Invasive Species

The implementation of this alternative would have no effect on noxious weed populations, since there are no known infestations within the allotments.

Federally Listed Species

Since federally listed species naturally don't occur on the allotment, there would be no impacts to these species or habitats from this alternative.

General Wildlife

This alternative would be most ideal for general wildlife and game species. There would be no opportunity for impacts from livestock grazing. However, because of the stable, functioning soil and vegetation on this allotment, benefits derived from this alternative compared to the proposed action could be difficult to distinguish. The proposed well would not be put in; any benefits or impacts derived from that facility would not be seen.

The proposed occasional intensive grazing in Minnehaha Canyon would not be done. A wildfire start at the mouth of Minnehaha Canyon, with its southwest exposure, could easily carry a wind driven fire up the canyon to a large sage grouse use complex at the top. Any loss of one of the scattered groups of sage grouse due to long-term habitat damage would impact

the local metapopulations and could be very important to the survivability of the Pine Nut population.

Although fuels reduction in Minnehaha Canyon could be done using other methods such as mowing, it would require funding that isn't available. The use of prescribed fire isn't an option. Not being able to reduce the wildfire hazard in Minnehaha could be significant for sage grouse in the Pine Nut Range.

Special Status Species

BLM Sensitive Species & Migratory Birds

This alternative would be most ideal for BLM sensitive species and migratory birds. There would be no opportunity for impacts from livestock grazing. However, because of the stable, functioning soil and vegetation on this allotment, benefits derived from this alternative compared to the proposed action could be difficult to distinguish. The proposed well would not be put in; any benefits or impacts derived from that facility would not be seen.

The effect of not being able to treat Minnehaha Canyon has been discussed.

Wetlands/Riparian

The No Grazing alternative would eliminate any livestock impacts to riparian areas. Improvement in riparian condition could be expected for some areas, but livestock would be unavailable as a vegetation management tool. The benefits of treatments like heavy grazing in Minnehaha Canyon to reduce the risk of wildfire could not be achieved.

Water Quality

The No Grazing alternative would eliminate any livestock impacts to water quality. Improvement in water quality could be expected for some areas, but livestock would be unavailable as a vegetation management tool. The benefits of treatments like heavy grazing in Minnehaha Canyon to reduce the risk of wildfire could not be achieved.

Cultural Resources

The implementation of the No Grazing alternative could have a slight positive impact on unknown cultural resources within the allotments, but since the proposed action is analyzed to meet standards of no adverse effect, the magnitude of the impact improvement likely would not be measurable.

Wilderness

Use of the area by domestic sheep would no longer be an issue.

C. CONVERSION TO A COW/CALF OPERATION ALTERNATIVE

Vegetation

Under this alternative, the grasses would be the preferred forage and would almost exclusively be utilized. In the short term, the consistent use of the grasses would be a benefit as old growth would be removed. The shrub community would be impacted to a lesser extent as the low and black sage are not readily sought out by cattle. Cattle would tend to concentrate in or near riparian areas. This would likely lead to a shift from proper functioning condition to functional at-risk or non-functional ratings for those sited not protected by fencing.

Range/Livestock

With no fenced pastures, drift to adjoining Allotments could become a problem, resulting in unauthorized use actions. Cattle drift into the scenic area would also be a concern.

Recreation

Adoption of this alternative would have no adverse effects on recreational use currently taking place on the allotment.

Soils

The implementation of this alternative could have a negative effect on the soils resource however it is difficult to predict the magnitude of impact. The Jack Wright summit area may be the most immediately impacted since cover from perennial grasses and forbs on the lower alluvial fans is less than optimum at this time, and there is evidence of surface soil movement. The upper elevations should be able to absorb the change in livestock type if the 45% utilization level is maintained. Also, Riparian areas could be adversely affected unless they are protected.

Invasive/Nonnative/Noxious Weeds

Since no noxious weed populations have been found within the allotment, the implementation of this alternative would have no impact.

Federally Listed Species

Since federally listed species naturally don't occur on the allotment, there would be no impacts to these species or habitats from the proposed activity.

General Wildlife

The rangeland health assessments completed for this allotment indicated that soils are stable in the allotment and supported functional plant groups that would be expected on this site. Because general wildlife habitats are intact and in good condition, a cattle operation would have a minimal effect on general wildlife (Fagerstone and Ramsey 1995) - if the good condition could be maintained. However, because cattle eat mostly grasses and forbs, and leave other species, general wildlife species diversity would be skewed to those needing brushy habitats. Since cattle don't eat pinyon-juniper seedlings, these trees could accelerate in invading sagebrush areas. Eventually, many areas would have only wildlife species that use woodland habitats; there would be very few open grassland species left.

Cattle use country that isn't as rough as domestic sheep use. They also aren't herded, so tend to stay focused around an area. Cattle use is unevenly distributed in an area (Guthery 1995). Cattle would use wet meadow, other spring and creek habitats and deep soil sagebrush sites at a heavier level than domestic sheep would. For this reason, mule deer summer forage could decline in quality which would affect fawn survival. The same effect could occur on benches now used by pronghorn in the spring.

Grazing of cattle would not affect bear or mountain lion use of the allotment.

Several studies indicate that cattle impact sage grouse habitat to a lesser degree than sheep. The thinking is that cattle consume mostly grasses and forbs while sheep consume sagebrush. Reduction of residual grass cover degrades sage grouse nesting habitat, however, apparently to a lesser degree than sheep grazing on sagebrush does (Axtell 2008). But according to research, grazing by cattle can have a negative, neutral or positive effect on sage grouse depending on the habitat context within which it is applied (Guthery 1995). Cattle choose grasses and forbs and leave most other plants. Domestic sheep eat bits of most plant/tree species. Cattle, especially cow-calf pairs, use country that isn't as rough as domestic sheep use. They also aren't herded, so tend to stay focused around an area. For this reason, cattle use is unevenly distributed in an area (Guthery 1995). On this allotment, cattle would use wet meadow, other spring and creek habitats and prime sagebrush nesting sites at a heavier level than domestic sheep would. All of these are prime sage grouse habitat. BLM regulations allow "moderate" use for cattle which is defined as up to 65%. If cattle grazed this allotment, all 65% of the use would be in prime sage grouse habitat. Herded sheep, such as are currently grazing, use most parts of the allotment which distributes use. Key sage grouse areas wouldn't be grazed as heavily. Measure use on this allotment by domestic sheep is less than 45% due to the permittee's husbandry practices of grazing his sheep "once over lightly". In this specific allotment, grazing of domestic sheep is more beneficial than cattle grazing because of the habitat context in this specific case.

Again, according to research, grazing by cattle can have a negative, neutral or positive effect on upland game birds found on this allotment, depending on the habitat context within which it is applied (Guthery 1995). Because these birds are not as tied to specific habitats as sage grouse, cattle grazing wouldn't have much effect.

The proposed well would not be put in; any benefits or impacts derived from that facility would not be seen. While individuals might benefit, overall populations wouldn't with one

exception. Every spring that can be retained that would support a nursing mule deer doe could have a beneficial effect on the deer herd associated with the Pine Nut Range.

The firebreak treatment wouldn't be done or would not have the same results as domestic sheep. Cattle aren't herded and as a result would leave the area before the target fuels reduction could be met. Use can't be as closely regulated as with herded domestic sheep. The effects of not having a fire break or a less effective one in Minnehaha Canyon have been discussed in the No Grazing Alternative.

This alternative would not be as good for general wildlife and game species habitats as the proposed action.

Special Status Species

BLM Sensitive Species

The effects to BLM sensitive species would be very similar to those discussed for general wildlife and sage grouse. This alternative wouldn't be as good for BLM sensitive species.

Neo-tropical Migratory Birds

Because cattle eat mostly grasses and forbs, and leave other species, migratory bird species diversity would eventually be skewed to those needing brushy habitats. Since cattle don't eat pinyon-juniper seedlings, these trees could accelerate the invasion of sagebrush areas. Eventually, many areas would have only bird species that use woodland habitats; there would be very few open grassland species left.

The proposed well would not be put in; any benefits or impacts derived from that facility would not be seen.

The effects of not having a fire break in Minnehaha Canyon have been discussed in the No Grazing Alternative.

This alternative would not be as good for migratory bird species habitats as the proposed action.

Wetlands/Riparian

The impacts of cattle grazing relative to those of sheep grazing would depend on a number of factors, primarily on grazing management, such as herding. In general, cattle tend to congregate more in bottomlands and around water sources. They can also damage soils and ground cover due to hoof impact, and because they favor grasses over browse species more than sheep.

If the 45 percent utilization level specified in the Proposed Action were achieved, some localized impacts to riparian areas would be likely if the allotment were converted to a cow/calf operation. It would not be surprising to see some of the riparian areas decline from a proper functioning condition to an at-risk condition.

Water Quality

The impacts of cattle grazing relative to those of sheep grazing would depend on a number of factors, primarily on grazing management, such as herding. In general, cattle tend to congregate more in bottomlands and around water sources. They can also damage soils and ground cover due to hoof impact, and because they favor grasses over browse species more than sheep.

If the 45 percent utilization level specified in the Proposed Action were achieved, some localized impacts to riparian areas and water quality would be likely if the allotment were converted to a cow/calf operation.

Cultural Resources

Cattle utilize and herd upon a landscape differently than sheep that are under an active herding regime. As such, cattle tend to herd for longer periods, with heavier hoof action, upon areas with water, shade, or forage that attract the animals. Under this alternative, there is a potential for an increased negative impact on known and unknown cultural resources within the allotment, specifically at and near the riparian areas and spring sources. This includes the proposed occasional heavy use encouraged within Minnehaha Canyon. However, since the proposed action is analyzed to meet standards of no adverse effect, the magnitude of the impact degradation likely would not be measurable.

Wilderness

The likelihood of cattle moving into the WSA/Scenic Area would be high. As a result, unwanted impacts could occur, affecting not only riparian values but also visual values.

Mitigating Measures

PROPOSED ACTION

Storage tanks would have to be buried. The color would have to be such that it blends with the surroundings to lessen visual impacts.

Any construction of proposed improvements that might be approved would have to be done in a manner that results in minimal disturbance to the soil and vegetation.

General Wildlife, BLM sensitive species, migratory birds

- Herding to avoid the Ivesia during the active growing period.
- BLM standard design bird ladders will be placed in troughs to alleviate drowning impacts for bats and migratory birds.

NO GRAZING ALTERNATIVE

None proposed.

CONVERSION TO A YEAR-ROUND OPERATION ALTERNATIVE

None proposed.

Residual Impacts

PROPOSED ACTION

The Ivesia should be safeguarded with herding being applied.

Bird ladders should prevent most, if not all, deaths associated with drowning for bats and migratory birds.

NO GRAZING ALTERNATIVE

With no mitigating measures, this is not applicable.

CONVERSION TO A YEAR-ROUND OPERATION ALTERNATIVE

With no mitigating measures being proposed, this is not applicable.

Cumulative Impacts

PROPOSED ACTION/NO ACTION

All resource values have been evaluated for cumulative impacts. It has been determined that cumulative impacts would be negligible as a result of the proposed action or alternatives.

The issuance of a term grazing permit for the Spring Gulch Allotment is a discrete action, and would cause no known cumulative impacts to the environment when considered in combination with any known or anticipated actions on these or adjacent lands in the past, present, or reasonably foreseeable future.

The grazing levels considered are either no grazing or grazing at moderate levels. Grazing at these levels has not been shown to be injurious to plant or animal species in the area. The effects of grazing at moderate levels, along with associated activities in the management of this allotment such as maintenance or construction of range improvements, would be limited to the immediate area of the allotment. They would not combine with any known, or reasonably foreseen, activities on these or adjacent lands to produce any detrimental cumulative impacts in the area.

NO GRAZING ALTERNATIVE

Refer to the Proposed Action.

CONVERSION TO A COW/CALF OPERATION

Refer to the Proposed Action.

Monitoring

Any monitoring proposed would be done as resources allow. Use Pattern Mapping would be a tool used to identify where livestock tend to concentrate. Photo trend plots would continue to provide a record of trend changes as it relates to forb, shrub, and grass density and diversity. Riparian areas would be monitored for trend as per Technical Reference 1737-11, “*Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas*.”

*A metapopulation is generally considered to consist of several distinct populations together with areas of suitable habitat which are currently unoccupied. Each population cycles in relative independence of the other populations and eventually goes extinct as a consequence of fluctuations in population size due to random demographic events; the smaller the population, the more prone it is to extinction. Although individual populations have finite life-spans, the population as a whole is often stable because immigrants from one population (which may, for example, be experiencing a population boom) are likely to re-colonize habitat which has been left open by the extinction of another population. They may also emigrate to a small population and rescue that population from extinction (called the *rescue effect*). The development of metapopulation theory, in conjunction with the development of [source-sink dynamics](#), emphasizes the importance of connectivity between seemingly isolated populations. Although no single population may be able to guarantee the long-term survival of a given species, the combined effect of *many* populations may be able to do this (Hanski and Gilpin 1997).

V. CONSULTATION & COORDINATION

List of Preparers

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VI. APPENDICES AND/OR ATTACHMENTS

Spring Gulch Allotment Map

References

Appendix A – **BLM Sensitive Species associated with the Spring Gulch Allotment**

Appendix B – **Neo-tropical Migratory Birds, Species of Continental Importance on Spring Gulch Allotment**

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APPENDIX A

BLM Sensitive Species associated with Spring Gulch Allotment

Animal

Golden Eagle	<i>Aquila chrysaetos</i>
Ferruginous Hawk	<i>Buteo regalis</i>
Northern Goshawk	<i>Accipiter gentilis</i>
Burrowing owl	<i>Athene cunicularia</i>
Juniper Titmouse	<i>Baeolophus griseus</i>
Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>
Greater sage-grouse	<i>Centrocercus urophasianus</i>
Mountain quail	<i>Oreortyx pictus</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Prairie Falcon	<i>Falco mexicanus</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Swainson's Hawk	<i>Buteo swainsoni</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Gray vireo	<i>Vireo vicinior</i>
Long-eared owl	<i>Asio otus</i>
Bendire's Thrasher	<i>Toxostoma bendirei</i>
Black Rosy Finch	<i>Leucosticte atrata</i>
Pallid bat	<i>Antrozous pallidus</i>
Spotted bat	<i>Euderma maculatum</i>
Long-eared myotis	<i>Myotis evotis</i>
Fringed myotis	<i>Myotis thysanodes</i>
Yuma myotis	<i>Myotis yumanensis</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
California myotis	<i>Myotis californicus</i>
Small-footed myotis	<i>Myotis ciliolabrum</i>
Long-eared myotis	<i>Myotis evotis</i>
Little brown myotis	<i>Myotis lucifugus</i>
Long-legged myotis	<i>Myotis volans</i>
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
Hoary bat	<i>Lasiurus cinereus</i>
Western pipistrelle bat	<i>Pipistrellus hesperus</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Pygmy Rabbit	<i>Brachylagus idahoensis</i>

Plant

Pine Nut Ivesia, mousetails	<i>Ivesia pityocharis</i>
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APPENDIX B

Neo-tropical Migratory Birds, Species of Continental Importance on Spring Gulch Allotment

Salt Desert (Neel 1999) -

Burrowing Owl	<i>Athene cunicularia</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>

Issues: Loss of understory due to excessive livestock grazing, invasion of exotic annuals (Neel 1999). Conversion of habitat for human use (Floyd et al 2007), OHV collision for burrowing owls (NDOW 2008),
Livestock grazing not an issue for loggerhead shrike (www.natureserve.com)

Western Shrublands (Beidleman 2000)

Shrubsteppe (Beidleman 2000), Sagebrush (Neel 1999)

Sage Sparrow	<i>Amphispiza belli</i>
Sage grouse	<i>Centrocercus urophasianus</i>
Brewer's sparrow	<i>Spizella breweri</i>
Ferruginous Hawk -	<i>Buteo regalis</i>

This bird uses flat topped juniper strings in sagebrush for nesting. East & SE slopes especially used if strings present.

Prairie Falcon	<i>Falco mexicanus</i>	(cliffs critical for nesting)
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This falcon needs cliffs for nesting

Mourning Dove	<i>Zenaida macroura</i>
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Mountain Shrub (Neel 1999; Beidleman 2000)

Virginia's Warbler	<i>Vermivora virginiae</i>
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Issues: fragmentation from man-caused activities. Overgrazing of grasses and forbs that alter community structure, invasion of non-native grasses and fire suppression / crown-killing wildfire (Beidleman 2000). Loss of shrub understory, increasing human infrastructure which fragments and degrades habitat, and increases soil erosion was also identified (Neel; Nevada Wildlife Action Plan 2006). Loss of habitat due to heavy grazing, altered fire regimes, spread of introduced plants (Neel 1999; Floyd et al 2007). Loss of loggerhead shrike due to rangeland pesticide a concern. Human disturbance for loggerhead not an issue. Sage Sparrow sensitive to habitat fragmentation. Land management effect on Virginia's warbler unknown. Brewer's sparrow issues related to ag and urban development, livestock grazing, cheatgrass invasion, herbicides, altered fire regimes (Floyd et al 2007)

Note: Shrubsteppe was identified as the highest priority habitat for conservation for breeding birds (Saab and Rich 1997; Paige and Ritter 1999). 10% of the world's population of ferruginous hawks breed in Nevada (Floyd et al 2007)

Woodland – (Beidleman 2000)

Gray Vireo	<i>Vireo vicinior</i>
Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>
Swainson's Hawk	<i>Buteo swainsoni</i>

Issues: fragmentation from man-caused activities and conversion to grasslands (Beidleman 2000), heavy livestock grazing and cowbird parasitism are threats to gray vireo. Cutting mature pinyon, changes in fire regimes a threat to pinyon jay. Nevada has high regional responsibility for protecting pinyon jay (Floyd et al 2007). Pinyon jay responds negatively to picnicking and hiking (BISON ND) Loss of winter habitat and pesticide poisoning in South American winter range is largest contributor to decline of Swainson's hawk (Floyd et al 2007)

Note: This habitat type supports the largest nesting-bird species list of any upland vegetation type in the West (Beidleman 2000). Nevada supports a sizable proportion of the breeding population of black-throated gray warblers (Floyd et al 2007).

Coniferous Forest - (Beidleman 2000) This habitat type includes Ponderosa pine, mixed conifer and spruce-fir among others.

Mixed conifer forests (Beidleman 2000):

Olive-sided Flycatcher *Contopus cooperi* -
Band-tailed Pigeon *Patagioenas fasciata*

Issues: logging and fire suppression that alters age class, structure and species composition of forests (Beidleman 2000). Need un-even aged stands, not even aged associated with commercial logging. Removing large diameter standing dead or dead down as part of fuels reduction or wildfire salvage is a threat to Olive-sided flycatcher Catastrophic fire (Neel 1999)

Deciduous Forest – Aspen (Beidleman 2000)

Northern Goshawk *Accipiter gentilis*

[In Nevada, uses large aspen clones that are inclusions in sagebrush or other habitat types for nesting.](#)

Issues: Loss of acreage due to fire suppression (Neel 1999). Type conversion to conifer due to lack of fire. Heavy livestock grazing suppressing aspen cloning.

Cliffs and Talus (Neel 1999)

Golden Eagle *Aquila chrysaetos*

Issues: mining activity, rock climbing (Neel 1999) Golden eagles relatively intolerant of human activity (Floyd et al 2007)